

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

**MAILED**

**APR 30 2004**

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex parte* DONALD S. FARQUHAR, KONSTANTINOS I. PAPATHOMAS  
and MARK D. POLIKS

Appeal No. 2004-0606  
Application 09/781,730

ON BRIEF

Before PAK, OWENS and TIMM, *Administrative Patent Judges.*

OWENS, *Administrative Patent Judge.*

*ON REQUEST FOR REHEARING*

In our decision mailed February 24, 2004, we affirmed rejections of claims 23, 25, 29, 32, 35, 36, 40-43 and 45 under 35 U.S.C. § 102(b) over Johnson, claims 24, 33 and 46-48 under 35 U.S.C. § 103 over Johnson in view of the appellants' admitted prior art, claim 37 under 35 U.S.C. § 103 over Johnson in view of Ueno and Kusano, and claims 39 and 49 under 35 U.S.C. § 103 over Johnson in view of Kodokian. The appellants request

reconsideration of our decision only as to claim 35. That claim reads: "The method of claim 23,<sup>(1)</sup> wherein the thermosetting resin includes solvent."

The appellants argue (request, page 2) that the board, in response to the appellants' argument that "[s]aid chemical change [curing] can effectuate said drying regardless of whether or not the resin includes a solvent" (reply brief, page 6), incorrectly stated that "[t]he appellants argue that curing can dry a solventless resin" (decision, page 8). The appellants state that their argument was "that it is not inherent that a liquid resin has solvent, and that it is thus not inherent for the resin that is dry after being cured to include a solvent prior to being cured" (request, page 2). The appellants state: "Drying is a physical process caused by the addition of heat. Curing is a chemical process effectuated by cross linking which increases the molecular weight of the substance being cured. Curing and drying are independent processes and curing does not cause drying." See *id.*

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<sup>1</sup> Claim 23 is set forth in our decision (page 2).

The appellants' statement regarding the difference between drying and curing is correct. If a solvent-containing resin is heated to a below-curing temperature, the solvent can be removed to produce a dry resin without any curing taking place. If a solventless liquid resin is heated to a below-curing temperature, the resin does not become dry but, rather, remains a liquid resin. That is why one of ordinary skill in the art would have interpreted Johnson's statement that the liquid epoxy resin, after it had been heated, "had been converted into a dry, flexible, semi-cured state" (col. 7, lines 46-47), to mean that both the physical drying process and the chemical semi-curing process, which does not cause drying, had taken place.<sup>2</sup>

The appellants argue that a crosslinked material can be a tacky, elastomeric, tough and glassy material, and that such a material inherently is dry (request, page 4). The relevant issue, however, is what one of ordinary skill in the art would have considered Johnson to mean by the liquid resin being

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<sup>2</sup> In the event of further prosecution the appellants should attempt to 1) obtain Dow Chemical Company product brochure # 296-396-783 for Dow epoxy resin 521-A80 which, Johnson states, was used to make the liquid epoxy resin in example 1 (col. 7, lines 32-34), or 2) obtain other information which describes that resin. We were not able to find that product brochure or information on that resin on the Internet at the time of our decision.

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"converted into a dry, flexible, semi-cured state". We find no evidence of record that those of ordinary skill in the art used "dry" and "semi-cured" in combination to describe a semi-cured solventless liquid resin. The only relevant evidence relied upon by the appellants and the examiner is Abe which discloses that as of 3½ years before Johnson's earliest effective filing date, all epoxy resins used to impregnate fibrous base materials, which is how Johnson uses his liquid epoxy resin (example 1), were dissolved in a solvent (col. 1, lines 22-31). Thus, the evidence indicates that one of ordinary skill in the art would have considered Johnson's phrase, "converted into a dry, flexible, semi-cured state", to mean that both drying, by solvent removal, and semi-curing have taken place.

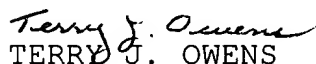
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We have reconsidered our affirmance of the rejection of claim 35 in response to the appellants' request for rehearing but, for the above reasons, we decline to make any change to the decision.

*DENIED*



CHUNG K. PAK  
Administrative Patent Judge



TERRY J. OWENS  
Administrative Patent Judge



CATHERINE TIMM  
Administrative Patent Judge

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